

REMARKS

Favorable reconsideration of this application presented for continued examination (“RCE”) under 37 C.F.R. §1.114, as presently amended and in light of the following discussion, is respectfully requested.

Claims 1-27 are pending in the present application. Claims 1, 6, 11, 16, and 20 are amended, and Claims 24-27 are added by the present amendment.

In the Office Action of July 30, 2003, Claims 1-23 were rejected as anticipated by U.S. Patent No. 6,157,415 to Glen. Applicants filed an amendment thereto, prompting the Advisory Action dated November 17, 2003. That Advisory Action concluded that Applicants’ prior amendments to independent Claims 1, 6, 11, 16, and 20 did not place the claims in condition for allowance. Consequently, Applicants submit the present response, with a RCE requesting entry of the Amendment filed October 30, 2003.

Applicants traverse the rejection of Claims 1-23 as anticipated by Glen and address the conclusions presented in that Advisory Action, with respect to the claims as currently written.

Claim 1 is directed to an overlay image processing device including, *inter alia*:

a plurality of resolution converters *configured to receive respective outputs directly from the image selector*, such that each resolution converter can input any of the respective outputs, to convert resolutions of the n number of selected image signals into respective desired resolutions, and to *output the converted image signals to an image synthesizer*,

Independent Claims 6, 11, 16, and 20 recite similar features.

Thus, as noted in the Advisory Action, Claim 1 recites that (1) the resolution converters are configured to directly receive respective outputs of the image selector, and (2) the resolution converters output the converted image signals to the image synthesizer.

With respect to the first (1) limitation, the Advisory Action states that Glen teaches blending modules performing resolution conversion, and that the blending modules receive respective outputs directly from an image selector. More particularly, with reference to Figure 2 of Glen, the Advisory Action asserts that the configuration module 40 selects images 18 output by multiplexers 32, 34, 36, 38; that the combination of the configuration module 40 and multiplexers 32, 34, 36, 38 thereby constitutes an “image selector”; and that the “image selector” outputs directly to the blending modules 48, 50, which are further asserted to teach the claimed “resolution converters”.

With respect to the second (2) limitation, the Advisory Action states that Glen teaches the blending modules as performing both resolution conversion and image synthesizing functions; that it would have been obvious to reconfigure the blending modules into two separate units performing these functions, respectively; and that it would have been obvious to have such a resolution conversion unit output to the image synthesizing unit.

Even assuming, *arguendo*, the above assertions are correct, Glen does not teach a particular blending module that satisfies *both* the first (1) and second (2) limitations. More particularly, Glen does not teach a particular blending module that both: receives outputs directly from an image selector; and either outputs to an image synthesizer or itself performs image synthesis. For instance, only the “dynamic blending module 30” arguably converts and synthesizes images. That module 30, however, does not receive images directly from an “image selector”.

Accordingly, Applicants respectfully submit that the claimed “resolution converters” of independent Claims 1, 6, 11, 16, and 20 distinguish over Glen. Therefore, Applicants respectfully submit independent Claims 1, 6, 11, 16, and 20, and the claims dependent therefrom, are in condition for allowance.

Applicants now address new dependent Claims 24-27, which are added to further clarify an operation of the claimed resolution converters.

New dependent Claim 24 is directed to the resolution converters of Claim 1 and, with respect thereto, further recites:

the respective outputs of the image selector include an analog RGB signal and a horizontal sync signal,

each of the resolution converters generates a clock signal synchronized with the horizontal sync signal and corresponding to a pixel clock for the analog RGB signal, and quantizes the RGB signal in synchronism with the clock signal to convert the analog RGB signal to a digital RGB signal, and

a single image signal element quantized by each of the resolution converters corresponds to one pixel of the image represented by the RGB signal.

New dependent Claims 25-27 recite similar features.

In a non-limiting example, Figure 10 illustrates a block diagram of one embodiment of the claimed resolution converter. The resolution converter 118A includes an AD converter 240, a PLL circuit 242, and an IP converter 244 (Specification, page 11, lines 1-2). The reference original image signal SD10, which is selected by the selector 116 and input into the resolution converter 118A, contains an analog RGB signal ARGB (ARGBpc, ARGBvs1, or ARGBvs2), a horizontal sync signal HD (HDpc, HDvs1, or HDvs2), and a vertical sync signal VD (VDpc, VDvs1, or VDvs2) (Specification, page 11, lines 2-6). The PLL circuit 242 generates a clock signal SCLK that is both synchronized with the horizontal sync signal HD and corresponding to a pixel clock for the RGB signal ARGB (Specification, page 11, lines 6-8). The AD converter 240 quantizes the analog RGB signal ARGB in synchronism with the clock signal SCLK to convert it to a digital RGB signal DRGB (Specification, page 11, lines 8-10).

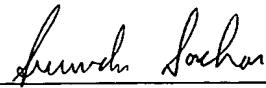
By this operation, a single image signal element quantized by the AD converter 240 corresponds to one pixel of the image represented by the RGB signal (Specification, page 11, lines 10-12). Accordingly, it is possible to change the number of pixels in the image represented by the quantized RGB signal, *i.e.*, the resolution, by changing the frequency of the clock signal SCLK generated by the PLL circuit 242 (Specification, page 11, lines 12-15).

Glen focuses on the conversion of video signals from one standardized *color encoding* to another (Glen, col. 2, lines 4-6), and only cursorily addresses the issue of resolution. Accordingly, because Glen does not teach or suggest the structure or method for resolution conversion recited by new dependent Claims 24-27, Applicants respectfully submit those claims are further distinguishing over Glen.

Consequently, in light of the above discussion and in view of the present amendment, the present application is believed to be in condition for allowance, and an early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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